## TYPICAL DETAIL OF TUBULAR EXTENSIONS REVISED AND REDRAWN: 1-07-05 STEEL or ALUMINIMUM -NO SCALE-- 2" RESISTANT LIQUID- TIGHT TUBULAR EXTENSION FLEXIBLE METALLIC CONDUIT GENERAL NOTES TUBULAR EXTENSION SPECIFICATIONS CONDUIT RIGID, 2 IN (CCTV AND/OR VDS CABLES) Grounding: 1/2" Ø X 3' CONDUIT, RIGID, 1 IN (#4 AWG INSULATED STRANDED GROUND WIRE FROM LIGHTNING ROD TO 20' GROUND ROD) -LIGHTNING ROD GENERAL: SHALL EXTEND 1. Extensions shall be furnished with a 4x6-1/2" reinforced hand-hole complete 1. The contractor shall install a new grounding system for the tubular extension. with cover and attaching stainless steel hardware located opposite 2" conduit TUBULAR EXTENSION Connnecting to existing overhead structure or proposed cabinet grounding systems SHALL BE MOUNTED 2' FROM TOP OF TUBULAR EXTENSION shall not be permitted. HANDHOLE -2. Provisions for wiring access as well as for grounding must be provided. -2" RESISTANT LIQUID- TIGHT FLEXIBLE METALLIC CONDUIT 3. Extensions shall be furnished with a 1/2" -13NC ground nut welded to the outside edge of the base. 1" WEATHERHEAD -2. Ground rods, installation and testing shall be in accordance with section 647.3.05(AA) of the specifications unless specified otherwise in the plans. DESIGN: 3. A 1/2" diameter x 3' solid copper or copper with nickel plating lightning rod shall be clamped 1. Tubular Extensions shall meet or exceed the design criteria for poles 1" LB to the tubular extension in accordance with National Electrical Code (NEC) requirements. DRIP LOOP(S) SHOULD NOT INTERFERE WITH CCTV --specificed within this contract. - CONDUIT RIGID, 2 IN CONDUIT, RIGID, 1 IN 2. The design shall meet or exceed the requirements of the Electronic (CCTV AND/OR VDS CABLES) - 2" WEATHERHEAD WITH (#4 AWG INSULATED STRANDED Video System: Industries Association RS-222-C. Class "C". GROUND WIRE FROM LIGHTNING THREADED COLLAR ROD TO 20' GROUND ROD) -3. All extensions shall be designed for support of microwave equipment and 1. The contractor shall furnish and install a 2" rigid conduit riser from cabinet bottom up cameras, not weighing more than 25lbs. each. CONDUIT, RIGID, 1 IN (#4 AWG INSULATED STRANDED GROUND WIRE existing sign structure to near top of overhead structure. Flexible conduit shall only be FROM LIGHTNING ROD TO 20' GROUND ROD) used as shown. Video cables are to run inside tubular extension pole to video devices. 1. All round tapered tubes shall conform to requirements of ASTM-595 Grade A. - CCTV CAMERA (TYP) Install weatherheads with a threaded nipple installed in a threaded collar on the tubular 1" RESISTANT LIQUID- TIGHT SHALL BE MOUNTED 2. Steel base plates shall be manufactured from steel conforming to ASTM-A36. A MAXIMUM OF 5' FLEXIBLE METALLIC CONDUIT extension pole just above the CCTV. The treaded collar shall be designed and fabricated BELOW VDS CAMERA(S) 3. Anchor bolt material shall conform to requirements of ASTM-A675 Grade 90. at the point of pole manufacture. Field drilling is not permitted. The cost for vertical conduit (1" and 2") OR 2' FROM TOP OF TUBULAR EXTENSION II The anchor bolts shall be galvanized on the threaded end (galvanizing is in weatherheads, LB-LR conduit bodies, conduit straps, and sweeps shall be included in the bid NO VDS CAMERA(S) ARE accordance with ASTM-A153). Bolts shall be furnished with two galvanized INSTALLED ON SAME hex nuts and a tapped plate or an L bend. price for Video Camera Sensor Assembly or CCTV System. TUBULAR EXTENSION 2. All cable entrances between the CCTVVDS controller cabinet and the tubular extension 1. Tubular Extensions shall be hot dipped galvanized in accordance with pole shall be by galvanized rigid steel conduit, UV-stabilized metallic liquid-tight flexible - TUBULAR EXTENSION conduit, or on LB or similar conduit body always installed into threaded collars. Rigid BRACKETS (TYP) NOTE: All designs and shop drawings shall be submitted to the State Office of collars shall be designed and fabricated at the point of manufacture by the manufacturer. Bridge Design, for approval, prior to installation. Street elbows are not permitted. Field drilling of the tubular extension pole is not permitted unless specified in the approved shop drawings. — CCTV AND/OR VDS CABLES INSIDE 3. Riser conduit bends, including into the base of the CCTVVDS equipment cabinet, shall TUBULAR EXTENSION be made only by LB or similar conduit bodies and threaded nipples. CONDUIT, RIGID, 1 IN (#4 AWG INSULATED STRANDED GROUND WIRE 4. Sweeps shall only be used as shown underground at the base of the overhead structure. FROM LIGHTNING ROD TO 20' GROUND ROD) -5. All conduit shall be secured to the overhead structure, foundation, and tubular extension as per NEC requirements. Conduit shall not extend directly from the cabinet into the ground. BASE PLATE HORIZONTAL SIGN SUPPORT - L BEND BASE BRACKET ATTACHMENT CONDUIT, RIGID, 1 IN (#4 AWG INSULATED STRANDED GROUND WIRE (SIDE VIEW) CONDUIT RIGID, 2 IN FROM LIGHTNING ROD TO 20' GROUND ROD) -(CCTV AND/OR VDS CABLES) - CCTVVDS CABINET CONDUIT, NONMETL, TP 2, 2 IN (POWER SERVICE WIRES-SIZE AS REQUIRED) CONDUIT, RIGID, 1 IN (#6 AWG SOLID GROUND WIRE FROM CABINET TO 8' GROUND ROD) VARIES POWER SERVICE WIRES PULL BOX, PB-2 ~PULLBOX, PB-5 5/8/ 0 GROUND ROD (8' MINIMUM) GROUND LINE -SHOULDER -— SHOULDER OSP F/O CABLE,LOOSE TUBE CONDUIT, NONMETL, TP 2, 2 IN (SERVICE WIRES-SIZE AS REQUIRED) F/O CLOSURE, UNDERGROUND MAINTENANCE COIL (OSP F/O CABLE,LOOSE TUBE) MAINTENANCE COIL 5 /8" Ø GROUND ROD (OSP FO CABLE, DROP) (#4 AWG INSULATED STRANDED GROUND WIRE COMMUNICATION BOX,TP 5 FROM LIGHTNING ROD TO 20' GROUND ROD) CONDUIT, NONMETL, TP 2 OR TP 3, 2 IN (SEE PLAN SHEET) -(OSP F/O CABLE, DROP) CONDUIT, NONMETL, TP 2, 2 IN — (OSP F/O CABLE, DROP) SWEEPS (TYP) ACCOUNT NO. GEORGIA DEPARTMENT ATMS DESIGN I-285 FROM I-75 SOUTH INTERCHANGE EAST TO I-20 OF TRANSPORTATION DRAWING NO. TUBULAR EXTENSION DETAIL SHEET SUPERVISED BY

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